

**COLORADO DISCHARGE PERMIT SYSTEM (CDPS)
FACT SHEET FOR PERMIT NUMBER CO0045217
SCARP RIDGE LLC. IRWIN MOUNTAIN LODGE
GUNNISON COUNTY**

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I. TYPE OF PERMIT

- A. Permit Type:** Domestic – Minor Municipal, Mechanical Plant
- B. Discharge To:** Surface Water

II. FACILITY INFORMATION

- A. SIC Code:** 4952 Sewerage Systems
- B. Facility Classification:** Class B per Section 100.5.2 of the Water and Wastewater Facility Operator Certification Requirements
- C. Facility Location:** Latitude: 38.87778 N, Longitude: 107.1069 W
- D. Permitted Feature:** 38° 53' 07" N, 107° 06' 13" W

The location(s) provided above will serve as the point(s) of compliance for this permit and are appropriate as they are located after all treatment and prior to discharge to the receiving water.

- E. Facility Flows:** 0.01375 MGD

F. Major Changes From Last Renewal:

The fecal coliform limits imposed by the previous permit have been translated to E. Coli per Regulation 35. Ammonia limitations were calculated by AMMTOX model in this permit. The facility has never discharged, but the permittee has elected to retain permit coverage for this discharge.

III. RECEIVING STREAM

A. Waterbody Identification: *COGUNF04, an unnamed tributary to Lake Irwin, which drains to Anthracite Creek, and subsequently to Coal Creek*

B. Water Quality Assessment:

An assessment of the stream standards and low flow data has been performed to determine the assimilative capacities for an *unnamed tributary to Lake Irwin, which drains to Anthracite Creek, and subsequently to Coal Creek* for potential pollutants of concern. This information, which is contained in the Water Quality Assessment (WQA) for this receiving stream(s), also includes an antidegradation review, where appropriate. The Division's Permits Section has reviewed the assimilative capacities to determine the appropriate water quality-based effluent limitations as well as potential limits based on the antidegradation evaluation, where applicable. The limitations based on the assessment and other evaluations conducted as part of this fact sheet can be found in Part I.A of the permit.

Permitted Outfall 001 will be the authorized discharge point to the receiving stream.

IV. FACILITY DESCRIPTION

A. Infiltration/Inflow (I/I)

No infiltration/inflow problems have been documented in the service area.

B. Lift Stations

There are no lift stations in the service area.

C. Chemical Usage

The permittee did not specify any chemicals for use in waters that may be discharged. On this basis, no chemicals are approved under this permit. Prior to use of any applicable chemical, the permittee must submit a request for approval that includes the most current Material Safety Data Sheet (MSDS) for that chemical. Until approved, use of any chemical in waters that may be discharged could result in a discharge of pollutants not authorized under the permit. Also see Part II.A.1. of the permit.

D. Treatment Facility, Facility Modifications and Capacities

The facility consists of an activated sludge mechanical wastewater plant with UV disinfection (SA #4332, dated October 19, 1998). The facility is undergoing renovation and is not discharging at this time. The permittee has not performed any construction or upgrades at this time that would change the hydraulic capacity of 0.01375 MGD or the organic capacity in number of pounds, 50 BOD₅/day, which were specified in Site Approval #4332. That document should be referred to for any additional information.

E. Biosolids Treatment and Disposal

1. EPA General Permit - EPA Region 8 issued a General Permit (effective October 19, 2007) for Colorado facilities whose operations generate, treat, and/or use/dispose of sewage sludge by means of land

application, landfill, and surface disposal under the National Pollutant Discharge Elimination System. All Colorado facilities are required to apply for and to obtain coverage under the EPA General Permit.

2. Biosolids Regulation (Regulation No. 64, Colorado Water Quality Control Commission) - While the EPA is now the issuing agency for biosolids permits, Colorado facilities that land apply biosolids must comply with requirements of Regulation No. 64, such as the submission of annual reports as discussed later in this rationale.

V. PERFORMANCE HISTORY

A. Monitoring Data

1. Discharge Monitoring Reports –During the last permitting cycle this facility had no discharge.

B. Compliance With Terms and Conditions of Previous Permit

As this facility has been non-discharging, the Irwin Mountain Lodge WWTF has maintained compliance with the previous permit.

VI. DISCUSSION OF EFFLUENT LIMITATIONS

A. Regulatory Basis for Limitations

1. Technology Based Limitations
 - a. Federal Effluent Limitation Guidelines – The Federal Effluent Limitation Guidelines for domestic wastewater treatment facilities are the secondary treatment standards. These standards have been adopted into, and are applied out of, Regulation 62, the Regulations for Effluent Limitations.
 - b. Regulation 62: Regulations for Effluent Limitations – These Regulations include effluent limitations that apply to all discharges of wastewater to State waters and are shown in Section VIII of the WQA. These regulations are applicable to the discharge from the Scarp Ridge LLC WWTF.
2. Numeric Water Quality Standards - The WQA contains the evaluation of pollutants limited by water quality standards. The mass balance equation shown in Section VI of the WQA was used for most pollutants to calculate the potential water quality based effluent limitations (WQBELs), M_2 , that could be discharged without causing the water quality standard to be violated. For ammonia, the AMMTOX Model was used to determine the maximum assimilative capacity of the receiving stream. A detailed discussion of the calculations for the maximum allowable concentrations for the relevant parameters of concern is provided in Section VI of the Water Quality Assessment developed for this permitting action.

The maximum allowable pollutant concentrations determined as part of these calculations represent the calculated effluent limits that would be protective of water quality. These are also known as the water quality-based effluent limits (WQBELs). Both acute and chronic WQBELs may be calculated based on acute and chronic standards, and these may be applied as daily maximum (acute) or 30-day

average (chronic) limits.

3. Narrative Water Quality Standards - Section 31.11(1)(a)(iv) of The Basic Standards and Methodologies for Surface Waters (Regulation No. 31) includes the narrative standard that State surface waters shall be free of substances that are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life.
 - a. Whole Effluent Toxicity - The Water Quality Control Division has established the use of WET testing as a method for identifying and controlling toxic discharges from wastewater treatment facilities. WET testing is being utilized as a means to ensure that there are no discharges of pollutants "in amounts, concentrations or combinations which are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life" as required by Section 31.11 (1) of the Basic Standards and Methodologies for Surface Waters. The requirements for WET testing are being implemented in accordance with Division policy, Implementation of the Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (Sept 30, 2010). Note that this policy has recently been updated and the permittee should refer to this document for additional information regarding WET.
4. Water Quality Regulations, Policies, and Guidance Documents
 - a. Antidegradation - Since the receiving water is Undesignated, an antidegradation review is required pursuant to Section 31.8 of The Basic Standards and Methodologies for Surface Water. As set forth in Section VII of the WQA, an antidegradation evaluation was conducted for pollutants when water quality impacts occurred and when the impacts were significant. Based on the antidegradation requirements and the reasonable potential analysis discussed below, antidegradation-based average concentrations (ADBACs) may be applied.

According to Division procedures, the facility has three options related to antidegradation-based effluent limits: (1) the facility may accept ADBACs as permit limits (see Section VII of the WQA); (2) the facility may select permit limits based on their non-impact limit (NIL), which would result in the facility not being subject to an antidegradation review and thus the antidegradation-based average concentrations would not apply (the NILs are also contained in Section VII of the WQA); or (3) the facility may complete an alternatives analysis as set forth in Section 31.8(3)(d) of the regulations which would result in alternative antidegradation-based effluent limitations.

The effluent must not cause or contribute to an exceedance of a water quality standard and therefore the WQBEL must be selected if it is lower than the NIL. Where the WQBEL is not the most restrictive, the discharger may choose between the NIL or the ADBAC: the NIL results in no increased water quality impact; the ADBAC results in an "insignificant" increase in water quality impact. The ADBAC limits are imposed as two-year average limits.

- b. Antibacksliding

As the receiving water is designated Reviewable or Outstanding, and the Division has performed an antidegradation evaluation, in accordance with the Antidegradation Guidance, the antibacksliding requirements in Regulation 61.10 have been met.

- c. Determination of Total Maximum Daily Loads (TMDLs) – This stream segment is not on the

State's 303(d) list, and therefore TMDLs do not apply.

- d. Colorado Mixing Zone Regulations – Pursuant to section 31.10 of The Basic Standards and Methodologies for Surface Water, a mixing zone determination is required for this permitting action. The Colorado Mixing Zone Implementation Guidance, dated April 2002, identifies the process for determining the meaningful limit on the area impacted by a discharge to surface water where standards may be exceeded (i.e., regulatory mixing zone). This guidance document provides for certain exclusions from further analysis under the regulation, based on site-specific conditions.

The guidance document provides a mandatory, stepwise decision-making process for determining if the permit limits will not be affected by this regulation. Exclusion, based on Extreme Mixing Ratios, may be granted if the ratio of the facility design flow to the chronic low flow (30E3) is greater than 2:1 or if the ratio of the chronic low flow to the design flow is greater than 20:1. Since the ratio of the chronic low flow to the design flow is 0:1 the permittee is eligible for an exclusion from further analysis under the regulation

The remaining threshold tests require site-specific information that is currently not available and thus a determination cannot be made about how the regulation may affect the setting of effluent limits in this permit. Therefore, a compliance schedule is necessary for acquisition of this information, which will be used to complete the testing of exclusion thresholds before the next permit renewal.

- e. Salinity Regulations – In compliance with the Colorado River Salinity Standards and the Colorado Discharge Permit System Regulations, the permittee shall monitor for total dissolved solids. Samples shall be taken at Permitted Feature 001.
- f. Reasonable Potential Analysis – Using the assimilative capacities contained in the WQA, an analysis must be performed to determine whether to include the calculated assimilative capacities as WQBELs in the permit. This reasonable potential (RP) analysis is based on the Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential, dated December, 2002. This guidance document utilizes both quantitative and qualitative approaches to establish RP depending on the amount of available data.

A qualitative determination of RP may be made where ancillary and/or additional treatment technologies are employed to reduce the concentrations of certain pollutants. Because it may be anticipated that the limits for a parameter could not be met without treatment, and the treatment is not coincidental to the movement of water through the facility, limits may be included to assure that treatment is maintained.

A qualitative RP determination may also be made where a federal ELG exists for a parameter, and where the results of a quantitative analysis results in no RP. As the federal ELG is typically less stringent than a limitation based on the WQBELs, if the discharge was to contain concentrations at the ELG (above the WQBEL), the discharge may cause or contribute to an exceedance of a water quality standard.

To conduct a quantitative RP analysis, a minimum of 10 effluent data points from the previous 5 years, should be used. The equations set out in the guidance for normal and lognormal distribution, where applicable, are used to calculate the maximum estimated pollutant concentration (MEPC). For data sets with non-detect values, and where at least 30% of the data

set was greater than the detection level, MDLWIN software is used consistent with Division guidance to generate the mean and standard deviation, which are then used to establish the multipliers used to calculate the MEPC. If the MDLWIN program cannot be used the Division's guidance prescribes the use of best professional judgment.

For some parameters, recent effluent data or an appropriate number of data points may not be available, or collected data may be in the wrong form (dissolved vs total) and therefore may not be available for use in conducting an RP analysis. Thus, consistent with Division procedures, monitoring will be required to collect samples to support a RP analysis and subsequent decisions for a numeric limit. A compliance schedule may be added to the permit to require the request of an RP analysis once the appropriate data have been collected.

For other parameters, effluent data may be available to conduct a quantitative analysis, and therefore an RP analysis will be conducted to determine if there is RP for the effluent discharge to cause or contribute to exceedances of ambient water quality standards. The guidance specifies that if the MEPC exceeds the maximum allowable pollutant concentration (MAPC), limits must be established and where the MEPC is greater than half the MAPC (but less than the MAPC), monitoring must be established. The RP determination is discussed for each parameter in the text below.

B. Parameter Evaluation

BOD₅ - The BOD₅ concentrations in Reg 62 are the most stringent effluent limits and are therefore applied. The removal percentages for BOD₅ also apply based on the Regulations for Effluent Limitations. These limitations are the same as those contained in the previous permit and are imposed upon the effective date of this permit.

Total Suspended Solids - The TSS concentrations in Reg 62 are the most stringent effluent limits and are therefore applied. The removal percentages for TSS also apply based on the Regulations for Effluent Limitations. These limitations are the same as those contained in the previous permit and are imposed upon the effective date of this permit.

Oil and Grease – The oil and grease limitations from the Regulations for Effluent Limitations are applied as they are the most stringent limitations. This limitation is the same as those contained in the previous permit and is imposed upon the effective date of this permit.

pH - This parameter is limited by the water quality standards of 6.5-9.0 s.u., as this range is more stringent than other applicable standards. This limitation is the same as that contained in the previous permit and is imposed upon the effective date of this permit.

E. Coli – The limitation for E. Coli is based upon the NIL as described in the WQA. A qualitative determination of RP has been made as the treatment facility has been designed to treat specifically for this parameter. The Division will add a compliance schedule to the permit since the old limitation is based on fecal coliform and the facility may not be able to meet the E.coli limitations. Since the previous limitation was based on fecal coliform, and e.coli is a subset of fecal coliform, the previous fecal coliform limitations will be applied in the permit for the interim e.coli limitations.

Total Residual Chlorine (TRC) - The limitation for TRC is based upon the WQBEL and ADBAC as

described in the WQA. A qualitative determination of RP has been made as chlorine may be used in the treatment process. These limitations are the same as that contained in the previous permit and are imposed upon the effective date of this permit.

Ammonia - The limitation for ammonia is based upon the WQBEL and NIL (August) as described in the WQA. A qualitative determination of RP has been made as the treatment facility has been designed to treat specifically for this parameter. Since the new limitations are slightly less stringent than previous limitations they will be imposed upon the effective date of the permit.

Temperature- Based on the information presented in the WQA, this facility is exempt from the temperature requirements based on flow ratio's.

Organics – The effluent is not expected or known to contain organic chemicals, and therefore, limitations for organic chemicals are not needed in this permit.

Whole Effluent Toxicity (WET) Testing – This is a domestic minor facility receiving no industrial/commercial discharge and therefore no metals are expected in the discharge. The ammonia is control with aquatic life based limitations no toxicity from ammonia is expected. Therefore, no WET testing will be required.

VII. ADDITIONAL TERMS AND CONDITIONS

A. Monitoring

Effluent Monitoring – Effluent monitoring will be required as shown in the permit document. Refer to the permit for locations of monitoring points. Monitoring requirements have been established in accordance with the frequencies and sample types set forth in the Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Industrial and Domestic Wastewater Treatment Facilities.

B. Reporting

1. Discharge Monitoring Report – The Scarp Ridge LLC. facility must submit Discharge Monitoring Reports (DMRs) on a monthly basis to the Division. These reports should contain the required summarization of the test results for all parameters and monitoring frequencies shown in Part I.A.2 of the permit. See the permit, Part I.D for details on such submission.
2. Special Reports – Special reports are required in the event of an upset, bypass, or other noncompliance. Please refer to Part II.A. of the permit for reporting requirements. As above, submittal of these reports to the US Environmental Protection Agency Region VIII is no longer required.

C. Signatory and Certification Requirements

Signatory and certification requirements for reports and submittals are discussed in Part I.D.8. of the permit.

D. Compliance Schedules

The following compliance schedule(s) are included in the permit: E.coli. See Part I.B of the permit for more information. All information and written reports required by the following compliance schedules should be directed to the Permits Section for final review unless otherwise stated.

E. Economic Reasonableness Evaluation

Section 25-8-503(8) of the revised (June 1985) Colorado Water Quality Control Act required the Division to "determine whether or not any or all of the water quality standard based effluent limitations are reasonably related to the economic, environmental, public health and energy impacts to the public and affected persons, and are in furtherance of the policies set forth in sections 25-8-192 and 25-8-104."

The Colorado Discharge Permit System Regulations, Regulation No. 61, further define this requirement under 61.11 and state: "Where economic, environmental, public health and energy impacts to the public and affected persons have been considered in the classifications and standards setting process, permits written to meet the standards may be presumed to have taken into consideration economic factors unless:

- a. A new permit is issued where the discharge was not in existence at the time of the classification and standards rulemaking, or
- b. In the case of a continuing discharge, additional information or factors have emerged that were not anticipated or considered at the time of the classification and standards rulemaking."

The evaluation for this permit shows that the Water Quality Control Commission, during their proceedings to adopt the Classifications and Numeric Standards for Gunnison and Lower Dolores River Basins, considered economic reasonableness.

Furthermore, this is not a new discharger and no new information has been presented regarding the classifications and standards. Therefore, the water quality standard-based effluent limitations of this permit are determined to be reasonably related to the economic, environmental, public health and energy impacts to the public and affected persons and are in furtherance of the policies set forth in Sections 25-8-102 and 104. If the permittee disagrees with this finding, pursuant to 61.11(b)(ii) of the Colorado Discharge Permit System Regulations, the permittee should submit all pertinent information to the Division during the public notice period.

Robert Hillegas
5/13/2013

VIII. REFERENCES

- A. Colorado Department of Public Health and Environment, Water Quality Control Division Files, for Permit Number CO0045217.
- B. "Design Criteria Considered in the Review of Wastewater Treatment Facilities", Policy 96-1, Colorado Department of Public Health and Environment, Water Quality Control Commission, April 2007.
- C. Basic Standards and Methodologies for Surface Water, Regulation No. 31, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective 1/31/2013.

- D. Classifications and Numeric Standards for Gunnison and Lower Dolores River Basins, Regulation No. 35, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective 3/30/2013
- E. Colorado Discharge Permit System Regulations, Regulation No. 61, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2009.
- F. Regulations for Effluent Limitations, Regulation No. 62, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective March 30, 2008.
- G. Pretreatment Regulations, Regulation No. 63, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective April 01, 2007.
- H. Biosolids Regulation, Regulation No. 64, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective March 30, 2010.
- I. Colorado River Salinity Standards, Regulation No. 39, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective August 30, 1997.
- J. Section 303(d) List of Water Quality Limited Segments Requiring TMDLs, Regulation No 93, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective April 30, 2008.
- K. Colorado's Section 303(d) List of Impaired Waters and Monitoring and Evaluation List, Regulation No 93, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective April 30, 2010.
- L. Antidegradation Significance Determination for New or Increased Water Quality Impacts, Procedural Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective December 2001.
- M. Memorandum Re: First Update to (Antidegradation) Guidance Version 1.0, Colorado Department of Public Health and Environment, Water Quality Control Division, effective April 23, 2002.
- N. Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential, Colorado Department of Public Health and Environment, Water Quality Control Division, effective December 2002.
- O. The Colorado Mixing Zone Implementation Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective April 2002.
- P. Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Domestic and Industrial Wastewater Treatment Facilities, Water Quality Control Division Policy WQP-20, May 1, 2007.
- Q. Implementing Narrative Standards in Discharge Permits for the Protection of Irrigated Crops, Water Quality Control Division Policy WQP-24, March 10, 2008.

- R. Implementing Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (WET) Testing, Colorado Department of Public Health and Environment, Water Quality Control Division Policy Permits-1, September 30, 2010.
- S. Policy for Conducting Assessments for Implementation of Temperature Standards in Discharge Permits, Colorado Department of Public Health and Environment, Water Quality Control Division, Policy Number WQP-23, effective July 3, 2008.
- T. Policy for Permit Compliance Schedules, Colorado Department Public Health and Environment, Water Quality Control Division Policy Number WQP-30, effective December 2, 2010.
- U. Procedural Regulations for Site Applications for Domestic Wastewater Treatment Works, Regulation No. 22, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2009.
- V. Regulation Controlling discharges to Storm Sewers, Regulation No. 65, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective May 30, 2008.
- W. Water and Wastewater Facility Operator Certification Requirements, Regulation No. 100, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2007.

Robert Hillegas
5/13/2013

IX. PUBLIC NOTICE COMMENTS

The public notice period was from May 17, 2013 to June 17, 2013. No written comments were received during the public notice period. However, the Division received one comment via a phone call from a citizen that they were unaware of a facility in the area. The Division provided verbal information regarding the facility location and type of discharge. There was no subsequent comment from the citizen.

Robert Hillegas
6/18/2013